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1314

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Gunnar WAHLSTEN

Serial No.: 09/554,132

Filing Date: May 9, 2000

For: METHOD AND ARRANGEMENT FOR WIRELESS DATA TRANSMISSION

Group Art Unit 2634

Examiner: D. Ha

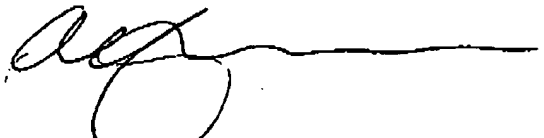
APPEAL BRIEF

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal from the decision of the primary examiner as set forth in the Office Action dated November 25, 2005 (Paper No./Mail Date 20051026), finally rejecting as unpatentable claims 1 through 10 of the above-identified application.

Respectfully submitted,



September 25, 2006

Alfred J. Mangels
Reg. No. 22,605
4729 Cornell Road
Cincinnati, Ohio 45241
Telephone: (513) 469-0470

09/27/2006 EFLORES 00000016 501300 09554132
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PTO/SB/21 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/554,132
Filing Date	05/09/2000
First Named Inventor	Gunnar WAHLSTEN
Art Unit	2634
Examiner Name	D. Ha
Attorney Docket Number	1314

Total Number of Pages in This Submission: 41

ENCLOSURES *(Check all that apply)*

- [✓] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [✓] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
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- [✓] Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- [ ] Proprietary Information
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name			
Signature			
Printed name	Alfred J. Mangels		
Date	9/25/06	Reg. No.	22,605

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Signature			
Typed or printed name	Alfred J. Mangels	Date	9/25/06

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2006

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 475.00

Complete if Known	
Application Number	09/554,132
Filing Date	05/09/2000
First Named Inventor	Gunnar WAHLSTEN
Examiner Name	D. Ha
Art Unit	2634
Attorney Docket No.	1314

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 501300 Deposit Account Name: Alfred J. Mangels

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☑ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

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FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims _____ - 20 or HP = _____ x Fee ($) _____ = Fee Paid ($) _____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims _____ - 3 or HP = _____ x Fee ($) _____ = Fee Paid ($) _____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims: Fee ($) _____ Fee Paid ($) _____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets _____ - 100 = Extra Sheets _____ / 50 = Number of each additional 50 or fraction thereof _____ (round up to a whole number) x Fee ($) _____ = Fee Paid ($) _____

4. OTHER FEE(S)

Fees Paid ($)

Non-English Specification, $130 fee (no small entity discount) _____

Other (e.g., late filing surcharge): Extension of time fee; Appeal Brief fee 475

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 22,605	Telephone (513) 469-0470
Name (Print/Type)	Alfred J. Mangels		Date 9/25/06

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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COPY

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In re application of

Gunnar WAHLSTEN

Serial No.: 09/554,132

Filing Date: May 9, 2000

For: METHOD AND ARRANGEMENT FOR WIRELESS DATA TRANSMISSION

Group Art Unit 2634

Examiner: D. Ha

PETITION FOR EXTENSION OF TIME

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby petitions the Commissioner under 37 C.F.R. § 1.136(a) for a two-month extension of the time within which to file his Brief on Appeal. Please charge Deposit Account No. 501300 in the amount of $225.00 to cover the petition fee due pursuant to 37 C.F.R. § 1.17(a) for a small entity. The Commissioner is hereby authorized to charge any additional fees that may be required, or to credit any overpayment, to Deposit Account No. 501300. A duplicate copy of this paper is enclosed.

Respectfully submitted,

September 25, 2006

Alfred J. Mangels
Reg. No. 22,605
4729 Cornell Road
Cincinnati, Ohio 45241
Telephone: (513) 469-0470

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The real parties in interest in connection with this application are the following:

Gunnar Whalsten – the inventor, of Stockholm, Sweden; and

Dobora Communication AB – the assignee of the entire interest in the application, of Saltsjö-Boo, Sweden.

RELATED APPEALS AND INTERFERENCES

There are no prior and pending appeals, judicial proceedings, or interferences related to or directly affecting, or affected by this appeal, or that may have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

The status of each of the claims in this application is as follows:

Claim 1 – rejected;

Claim 2 – rejected;

Claim 3 – rejected;

Claim 4 – rejected;

Claim 5 – rejected;

Claim 6 – rejected;

Claim 7 – rejected;

Claim 8 – rejected;

Claim 9 – rejected;

Claim 10 – rejected.

STATUS OF AMENDMENTS

An AMENDMENT AFTER FINAL REJECTION was filed in which no claims were amended and only additional arguments in favor of patentability were presented for consideration by the examiner. That amendment was acted upon by the examiner and was denied entry as not placing the application in better form for appeal by materially reducing or simplifying the issues for appeal.

SUMMARY OF CLAIMED SUBJECT MATTER

A concise summary of the subject matter of each of independent claims 1 and 5 follows. In that regard, none of the other claims in this application contains means recitations, and thus only the independent claims are summarized in this section. And because there is but one drawing figure, circuit elements referred to in method and apparatus claims 1 and 5 are identified only by their respective reference numerals and without referring specifically to drawing Figure 1.

Claim 1

Claim 1 recites the claimed method, which relates to the wireless transmission of data between at least two computers (elements 1 and 2; page 3, lines 16-17 and 29; page 4, lines 24-25) by utilizing a digital transmission system (page 4, lines 25-27) for more rapidly wirelessly transmitting digital data (page 3, lines 7-8; page 9, lines 7-10).

A transmitting computer (element 1) is connected to a digital transmitter (element 3; page 4, lines 27-28 and page 5, lines 27-28), and a receiving computer (element 2) is connected to a respective digital receiver (element 6; page 4, lines 28-30; page 5, lines 29-30). Digital information is intermittently transmitted from the transmitting computer (element 1) to a first adaptation circuit (element 7; page 4, line 31 to page 5, line 2; page 8, lines 27-28) that is disposed between the transmitting computer (element 1) and the digital transmitter (element 3). A first memory (element 8) is operatively coupled with the first adaptation circuit (element 7; page 8, lines 24-25), and information received from

the transmitting computer (element 1) for transmission to the receiving computer (element 2; page 6, lines 3-6) is stored in the first memory (element 8).

Information from the first memory (element 8) is substantially continuously outputted to the digital transmitter (element 3) under the control of an outfeed oscillator (element 9; page 8, lines 29-31) in the first adaptation circuit (element 7; page 5, lines 3-4; page 6, lines 7-11). The digital information is substantially continuously transmitted over a digital audio broadcast system (page 8, line 32 to page 9, line 1) from the digital transmitter (element 3) to a digital receiver (element 4) that is operatively coupled with the receiving computer (element 2; page 9, lines 3-5). The digital transmitter (element 3) and the digital receiver (element 4) operate to transmit digital information and to receive digital information, respectively, over the digital audio broadcast system (page 4, lines 24-27; page 8, lines 26-27).

The substantially continuously digitally transmitted information received by the digital receiver (element 4) is fed from the digital receiver into a second memory (element 12; page 6, lines 16-19) that is operatively coupled with a second adaptation circuit (element 11; page 6, lines 18-19). The second adaptation circuit (element 11; page 6, lines 18-19) is disposed between the digital receiver (element 4) and the receiving computer (element 2) and is under the control of an infeed oscillator (element 13) in the second adaptation circuit (element 11; page 6, lines 19-20). The substantially continuously digitally transmitted information is stored in the second memory (element 12; page 6, lines 20-22), and the two oscillators (elements 9 and 13) are operated at

substantially the same frequency (page 5, lines 8-9; page 6, lines 26-27; page 7, lines 1-3).

Information that has been received from the digital receiver (element 4) and stored in the second memory (element 12; page 5, lines 5-6; page 6, lines 16-19) is outputted intermittently from the second memory (element 12) in the second adaptation circuit (element 11) to the receiving computer (element 2; page 5, lines 9-11; page 6, lines 30-32).

Claim 5

Claim 5 recites the claimed combination of apparatus elements that enable the wireless transmission of data between at least two computers (elements 1 and 2; page 3, lines 16-17 and 29; page 4, lines 24-25) by utilizing a digital transmission system (page 4, lines 25-27) for more rapidly wirelessly transmitting digital data (page 3, lines 7-8; page 9 lines 7-10).

A transmitting computer (element 1) is connected to a digital transmitter (element 3; page 4, lines 27-28; page 5, lines 27-28), and a receiving computer (element 2) is connected to a digital receiver (element 6; page 4, lines 28-30; page 5, lines 29-30). A first adaptation circuit (element 7) is disposed between and operatively coupled with each of the transmitting computer (element 1) and the digital transmitter (element 3; page 6, lines 1-3). The first adaptation circuit (element 7; page 6, lines 3-6; page 8, lines 24-25) includes a first memory (element 8) that is adapted to store information delivered intermittently from the transmitting computer (element 1; page 4, line 31 to page 5, line 2; page 8, lines

27-28). The first adaptation circuit (element 7) outputs the information from the first memory (element 8) to the digital transmitter (element 3) substantially continuously (page 6, lines 7-9; page 8, lines 28-31). An outfeed oscillator (element 9) is disposed in the first adaptation circuit (element 7) for controlling the delivery of digital information from the first memory (element 8) to the digital transmitter (element 3; page 6, lines 11-13). The digital transmitter (element 3) and the digital receiver (element 4) operate to transmit digital information and to receive digital information, respectively, over a digital audio broadcast system (page 4, lines 24-27; page 8, lines 26-27).

A second adaptation circuit (element 11) is operatively coupled with each of the digital receiver (element 4) and the receiving computer (element 2; page 6, lines 15-16). A second memory (element 12) is disposed in the second adaptation circuit (element 11) for storing information received from the digital receiver (element 4; page 6, line 18-22), and the second adaptation circuit (element 11) inputs into the second memory (element 12) information that is substantially continuously received by the digital receiver (element 4; page 6, lines 16-18). An infeed oscillator (element 13) is disposed in the second adaptation circuit (element 11) for controlling the transmission of information from the digital receiver (element 4) to the second memory (element 12; page 6, lines 16-20) to be fetched by the receiving computer (element 2; page 6, lines 30-32). The receiving computer (element 2) receives information intermittently from the second memory (element 12; page 6, lines 30-32).

The outfeed and infeed oscillators (elements 9 and 13, respectively) operate at substantially the same frequency (page 5, lines 8-9; page 6, lines 26-27; page 7, lines 1-3).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection presented for review are the following:

1. Whether claims 1, 2, 5, 6, 9, and 10 are unpatentable under 35 U.S.C. §103(a) over Nelson et al. '122 in view of Matsuyama et al. '606 and Kumar '796; and

2. Whether claims 3, 4, 7, and 8 are unpatentable under 35 U.S.C. §103(a) over Nelson et al. '122 in view of Matsuyama et al. '606 and Kumar '796, and further in view of Dingsor '641 and Nomura et al. '896.

ARGUMENT

I

THE COMBINATION OF THE TEACHINGS OF NELSON ET AL. '122 IN VIEW OF THE MATSUYAMA ET AL. '606 AND KUMAR '796 REFERENCES DOES NOT RENDER OBVIOUS THE INVENTION AS CLAIMED IN CLAIMS 1, 2, 5, 6, 9, AND 10.

A. The Present Invention

Briefly, the present invention relates to the transmission of digital data wirelessly between a transmitting computer and a receiving computer utilizing the digital audio broadcast system. Each step of the transmission method, including the over-the-air wireless transmission, involves the direct conveyance in digital form of digital information between the two computers. The method is carried out without the need for modulation and demodulation of a transmission signal into and out of analog form, as is the case in the conventional FM radio transmission method. An important advantage of the present method is that the fully digitally transmitted information can be effected at speeds of the order of megabits per second, as opposed to analog transmissions, in which the data transmission rates are of the order of kilobits per second. However, computers are not configured to receive a more or less continuous digital audio broadcast system data stream, but operate in bursts of data.

In the present invention, the digital information is first transmitted intermittently in burst form from a transmitting computer. Before its over-the-air transmission to a second computer, the digital information is intermediately stored in a first memory of a first adaptation circuit. The digital information is

then substantially continuously digitally transmitted from the first adaptation circuit memory to a digital transmitter that substantially continuously transmits the digital data over a digital audio broadcast system to a digital receiver. The digital data received by the digital receiver are stored in a second memory associated with a second adaptation circuit, and they are thereafter transmitted intermittently to the receiving computer. Thus, the adaptation circuits present at both the transmission end of the system as well as at the receiving end, along with their respective memories, together with the digital transmitter and digital receiver, enable the transmission of digital data between two computers over a digital audio broadcast system and at very high transmission speeds.

As noted in paragraphs 5 and 6 of the present specification, the accuracy of which has not been questioned by the examiner, the claimed digital audio broadcast system allows faster transmission of larger amounts of data between computers than is possible by more conventional transmission methods and systems. In the digital audio broadcast system the digital data stream is substantially continuously transmitted. It is that continuous nature of the transmission that gives rise to the problem to which the present invention is directed – that a computer cannot transmit or receive a continuous data stream, only bursts of data, which makes it impossible to rapidly transfer data from one computer to another by way of a digital audio broadcast system transmission. And to effect such digital transmissions the present invention makes use of adaptation circuits that allow the transmission of digital data that is provided in burst form from a computer to take place substantially continuously over a digital

broadcast system, while each of the transmitting and receiving computers continues to operate in the burst mode.

B. The Nelson et al. Reference

The Nelson et al. reference that was cited and relied upon as the principal reference discloses a different data transmission system and a different data transmission method. In that reference the over-the-air transmission of data between data terminals takes place in analog form, not by the use of the digital audio broadcast system. Nelson et al. provide a sending RF modem 10 (see Nelson et al., Figure 1) that modulates data from the transmitting computer 12 to analog form for over-the-air transmission by transmitting radio 16. The receiving radio 16 receives the analog signal, whereupon it is conveyed to a receiving RF modem 10, which converts the signal from analog form back to digital form. The transmission is by way of conventional two-way FM radios (see Nelson et al, col. 1, lines 10 and 25; and col. 3, lines 5 and 20).

In the Nelson et al. system, the data from a first data terminal are modulated in an RF modem to an analog output signal (see Nelson et al., Figure 2, which identifies that output as "analog output"). That analog output signal is then broadcast as a modulated analog signal by a conventional FM transmitting radio 16 to a conventional FM receiving radio 16 (see Nelson et al., col. 2, lines 12 through 15). The received analog signal (see Nelson et al., Figure 3, which identifies the input as "analog input") is demodulated from analog to digital form for delivery to a receiving data terminal. Thus, the Nelson et al. reference is not directed to the problem to which the present invention is directed, which is to

enable the high-speed digital transmission of digital data over a digital audio broadcast system. Significantly, the Nelson et al. system is incapable of such high-speed data transmission because it only discloses the slower conventional analog system. The digital audio broadcast system as claimed in independent claims 1 and 5 is structurally and functionally different from the conventional analog-based FM broadcast system taught by Nelson et al., because the latter utilizes both transmitting end and receiving end modems for modulating digital data to analog form for transmission, and then demodulating the received analog signal to restore it to digital form. Therefore, one having only ordinary skill in the art and seeking to solve the problem to which the present invention is directed would not be led to the Nelson et al. reference because it is not pertinent to the enablement of the desired rapid digital transmission of digital information.

C. The Matsuyama et al. Reference

The Matsuyama et al. reference was cited by the examiner for its disclosure of an oscillator in a clock signal regenerating circuit. But the mere mention in the Matsuyama et al. reference of an oscillator in a clock signal circuit still does not address the problem that is solved by the present invention – permitting high speed digital data transmission between computers that operate burst-wise by using the digital audio broadcast system. Accordingly, one having only ordinary skill in the art would not be led to the Matsuyama et al. reference and to combine it with the Nelson et al. reference in connection with a solution to the problem that is solved by the present invention.

D. The Kumar Reference

The Kumar reference was relied upon as disclosing a digital audio broadcast system. But the Kumar reference discloses a digital audio broadcast system for broadcasting stereo high-fidelity music, which is a system in which digital information is continuously transmitted and continuously received. Indeed, the received signal is continuously processed and fed to an amplifier and loudspeakers. At no point in the Kumar system is digital information intermittently transmitted from a sending computer to a first adaptation circuit, transmitted wirelessly in digital form to a second adaptation circuit, and output intermittently to a receiving computer, all as recited in each of independent claims 1 and 5. Although Kumar relates to IBOC-digital audio broadcast system, in order to use IBOC-digital audio broadcast system for the transmission of digital data from a transmitting computer to a receiving computer it would be necessary to use the method steps and the elements of the present invention as claimed in claims 1 and 5, specifically the first and second adaptation circuits. But those steps and elements are not disclosed in or suggested by the Kumar reference, which does not even mention wireless transmissions between two computers, nor does it disclose or suggest how such transmissions between computers, which transmit and receive data only in burst form, can be accomplished. There is thus no link between the Kumar reference and either of the Nelson et al. or Matsuyama et al. references.

E. The combination of Nelson et al., Matsuyama et al., and Kumar

The examiner concluded that, "Nelson teaches transmission of digital information over the transmission path." In fact, however, Nelson et al. does not disclose or even remotely suggest any digital method of over-the-air transmission, only an analog method of transmission. Based upon the text and the drawings of the Nelson et al. reference, that reference clearly does not disclose either a method or an apparatus for digitally transmitting information from one computer, working burst-wise and by way of a normal data bus, to another computer, also working burst-wise by way of a normal data bus, by the use of a digital audio broadcast system. And the transmitting and receiving apparatus disclosed in Nelson et al. are incapable of digital over-the-air transmission in accordance with the digital audio broadcast standard.

Nelson et al. uses only conventional two-way FM-radios 16 for the transmission and reception of data in analog form. The Nelson arrangement does not transmit data using the digital audio broadcast system. Instead, at the transmitting end it converts the digital data to a modulated analog signal for the conventional analog radio net, and then at the receiving end it converts the modulated analog signal back to digital form. Thus, the present problem, namely to be able to use the Digital audio broadcast system with a substantially continuous data stream together with computers at both ends of the transmission path that operate burst-wise, is not even alluded to in the Nelson et al. reference. In contrast with a conventional analog transmission system, the information transmission capacity of a Digital audio broadcast system is very high.

Therefore, it is extremely advantageous to use a digital audio broadcast system-based system to more quickly broadcast large data files to even several computers simultaneously.

It should be noted that a normal computer at the transmitting end of a communication link, working burst-wise, cannot control a digital audio broadcast system-transmitter because of the burst-wise delivery of data. Additionally, a normal computer at the receiving end of a communication link cannot receive a digital audio broadcast system signal because of the fact that the receiving computer can only receive data burst-wise. That limitation exists regardless of the fact that the data being transmitted are digital data. As noted earlier, the digital audio broadcast system operates to digitally transmit substantially continuous digital data streams, while the computer containing the data to be transmitted and the computer that is to receive the transmitted data do not deliver or receive data on a substantially continuous basis.

To accommodate the data delivery and reception modes of operation of computers, the present invention includes an adaptation circuit on the transmitting side and an adaptation circuit on the receiving side. The adaptation circuits convert the data stream from intermittent to substantially continuous on the delivery side of the system, and convert the substantially continuous data stream to intermittent on the receiving side of the system. It is important to note that the claimed adaptation circuits and their methods of operation are neither disclosed in nor even remotely suggested by the Nelson et al. reference. The

reason Nelson et al. does not even mention such circuits is simply because such circuits are not needed for analog-based, conventional FM transmissions of data.

The examiner referred repeatedly to Nelson et al. disclosing a digital transmitter and a digital receiver. But the reference itself repeatedly refers to analog over-the-air transmissions, not to digital audio broadcast system transmissions. If Nelson et al. contemplated digital audio broadcast system transmissions as claimed in the present application, the sending end and receiving end modems that the reference specifically teaches would not be needed.

The two adaptation circuits of the claimed invention each have a respective oscillator, which each operate at substantially the same frequency. The adaptation circuits also include respective memories. The Nelson et al. buffers do not have the same functionality as the memories in the claimed invention.

On page 3 of the final rejection the examiner acknowledged that "Nelson et al. differs from the claimed invention. The first difference acknowledged by the examiner is that the Nelson et al. reference does not teach "said digital transmitter and receiver operate to transmit and receive information over a digital audio broadcast system." The second difference acknowledged by the examiner is that Nelson et al reference does not teach "communication between a computer and 'at least one other computer.'" The third difference acknowledged by the examiner is that the Nelson et al. reference does not teach "'an outfeed oscillator' and 'an infeed oscillator' and 'operating the two oscillators at

substantially the same frequency.'" By those admissions, it is clear that the Nelson et al. reference does not disclose important claimed features of the invention. Accordingly, because of the several differences between the claimed invention and the Nelson et al. disclosure, it would not be obvious to modify the Nelson et al. disclosure to arrive at the claimed invention. Nor is there any motivation apparent in the Nelson et al. reference to lead one from that reference to the claimed invention.

Although the examiner concluded that "these claimed subject matter would have been apparent to a person of ordinary skilled in the art," no supporting evidence for that conclusion was given, and no other motivation was cited to show how and why the claimed invention would be obvious.

In the Nelson et al. arrangement the data stream is sent burst-wise and at a rate of kilobits per second. That arrangement does not transmit digital data wirelessly, but, instead, converts the digital data signal to a modulated analog signal for transmission over the FM radio network and then converts the received modulated analog signal to a digital data signal. If the Nelson et al. arrangement were to be attempted to be utilized with a digital audio broadcast system system, the problem described above would arise in connection with computer-to-computer data transmission wirelessly. Thus, the Nelson et al. system creates the problem instead of solving the problem.

Furthermore, regarding oscillators, the examiner acknowledges that Nelson et al. does not teach the use of oscillators. However, the oscillators are essential in order to carry out the present invention in accordance with the digital

audio broadcast system-standard, as discussed in the present application, page 6, lines 1 through 28. Because Nelson et al. does not disclose such oscillators, Nelson et al. cannot use a digital audio broadcast system - what Nelson et al. uses instead is the conventional modem-based analog FM radio system.

Additionally, the Nelson et al. reference discloses an arrangement containing a phase locked loop for signal synchronization. The Matsuyama et al. reference was cited for its disclosure of an oscillator in a clock signal regenerating circuit. But the mere mention in the Matsuyama et al. reference of an oscillator in a clock signal circuit still does not address the problem that is solved by the present invention – permitting digital communication over a digital audio broadcast system between computers that operate burst-wise. Accordingly, one having only ordinary skill in the art would not be led to the Matsuyama et al. reference and to combine it with the Nelson et al. reference in connection with a solution to the problem solved by the present invention and reflected in the claims.

Moreover, there is no suggestion in either the Nelson et al. reference or the Matsuyama et al. reference that would lead one having only ordinary skill in the art to attempt to combine their teachings. And even if their teachings were to be combined, the combination still does not teach the substantially continuous digital transmission at high speed of digital data over a digital audio broadcast system between computers without modulation of the signals into and out of analog form. The present invention is neither taught nor suggested by either of the Nelson et al. or Matsuyama et al. references considered individually, nor is it

taught or suggested by their combination.

Moreover, the references do not contain any hint or suggestion as to precisely how they could be combined to arrive at the invention as claimed. In that regard, it is not apparent which features of which reference are to be combined with which features of another reference, and which elements of which reference are to be omitted from any combination of the teachings of the references. Accordingly, it is urged that the only motivation for combining the references in the manner the examiner has done is the disclosure of the present application. And to use as a road map or as a template an inventor's disclosure to aid in picking and choosing particular parts of particular references that allegedly can be combined to render obvious that which only the inventor has taught is an improper basis for rejection. The invention as claimed is directed to an invention that is not obvious from the teachings of the references relied upon.

Clearly, neither of the individual references, by itself, teaches or suggests the invention as it is claimed in claim 1. And as noted above, each of the references relied upon by the examiner relates to a different problem and to a different system than that to which the present invention is directed. And because of those differences, there would be no motivation to combine them.

Although one could assert broadly, as the examiner has done, that there exists a motivation to make a combination of particular elements of particular references in a particular way, such a mere broad and conclusory assertion by itself is insufficient. In that regard, it has been held that for there to be a sufficient showing of a motivation to combine the teachings of references, that motivation

must be supported by referring to some relevant and identifiable source of information. Conclusory statements of possible advantages that allegedly would lead one to combine the teachings of several references, and assumptions of what an ordinarily skilled person would or would not do, are by themselves inadequate to support a conclusion that there exists a motivation to combine references in a particular way. In that regard, the Federal Circuit explained the matter thusly:

> "The factual inquiry whether to combine references must be thorough and searching." Id. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with....The examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." W. L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).
>
> *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002)

Consequently, the mere fact that an element exists, and the mere assertion of a possible subjective benefit that in hindsight might be achieved by utilizing an existing element in a combination of the teachings of different references, is insufficient to support a conclusion of obviousness to combine. The mere fact that an element or structure exists does not automatically make obvious its combination with another element or structure. One must be

motivated in some specific way to make such a combination, and that motivation must come from a source other than the inventor whose invention is being assessed for obviousness. Thus, because the references relied upon contain no motivation to combine their teachings and in what way any combination could be effected, the combination of references is without basis and is therefore improper. The present invention as it is claimed in each of independent claims 1 and 5 is directed to an invention that is not obvious from the teachings of the references relied upon.

F. The dependent claims

Dependent claims 2 and 6, which depend from claims 1 and 5, respectively, were also rejected as obvious. Each of those claims is directed to synchronizing the frequencies of the infeed and outfeed oscillators in the respective second and first adaptation circuits, for locking the frequency of the infeed oscillator to a reference included in the digitally transmitted signal from the digital transmitter. Although the examiner relied upon Matsuyama et al. for a showing of frequency synchronization, as noted above there is no teaching in either of Nelson et al. or Matsuyama et al. that would lead one of only ordinary skill in the art to even attempt to combine them.

Regarding the rejection as obvious of dependent claims 9 and10, the examiner stated that "coded orthogonal frequency division multiplex is the modulation of choice for digital audio broadcast standard." However, the examiner offered no evidence and cited no reference to support that conclusion. But merely to conclude, without evidence, that something claimed is the normal choice is also

improper. As the Federal Circuit recently pointed out.

> [T]he deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is "basic knowledge" or "common sense" to one of ordinary skill in the art....We cannot accept these findings by the Board. This assessment of basic knowledge and common sense was not based on any evidence in the record and, therefore lacks substantial evidence support....With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience – or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.
>
> *In re Zurko*, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001).

Clearly, there is no evidentiary support in the present record for the bases for combining the references upon which claims 2, 6, 9, and 10 were rejected.

Of similar effect to *Zurko* is the Federal Circuit's decision in *In re Thrift*, 298 F.3d 1357, 63 USPQ2d 2002 (Fed. Cir. 2002). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed").

Accordingly, the combination of Nelson et al., Matsuyama et al., and Kumar does not render obvious the invention as it is claimed in the dependent claims. And because each of dependent claims 2, 6, 9, and 10 depends from one of independent claims 1 and 5, the same distinctions as have been noted above in connection with claims 1 and 5 apply with equal effect with respect to the rejections of those dependent claims.

II

THE COMBINATION OF THE TEACHINGS OF THE NELSON ET AL. '122 IN VIEW OF MATSUYAMA ET AL. '606 AND KUMAR '796, AND FURTHER IN VIEW OF DINGSOR '641 AND NOMURA ET AL. '896 REFERENCES DOES NOT RENDER OBVIOUS THE INVENTION AS CLAIMED IN CLAIMS 3, 4, 7, AND 8.

A. The Dingsor Reference

The Dingsor reference is directed to a device in an FM radio receiver for minimizing radio data modem receive errors. (See Dingsor, col. 3, lines 1-8). It therefore clearly contemplates the over-the-air transmission of conventional analog FM signals, as does the Nelson et al. reference, not the over-the-air digital transmission of digital signals utilizing the digital audio broadcast system, as is claimed in the independent claims from which respective ones of claims 3, 4, 7, and 8 depend.

B. The Nomura et al. Reference

The Nomura et al. reference relates to a receiver for determining the transmission mode of a digital audio broadcast transmission, but it does not teach or suggest the transmission of digital information between two computers utilizing the digital audio broadcast system. It, either alone or together with the other references relied upon, therefore does not enable one to solve the problem to which the present invention is directed.

C. The combination of Nelson et al., Matsuyama et al., Kumar, Dingsor, and

Nomura et al.

The examiner has relied upon the combination of five unrelated references and appears to have based the selection of the references upon the use of the present disclosure as a template for identifying those references and for combining them. The references themselves contain no teaching or suggestion that would motivate one having only ordinary skill in the art to select them, let alone to combine them. In that regard, it is important to note that none of the references relates to or even discusses the wireless transmission of digital data from one computer to another computer by utilizing the digital audio broadcast system. Clearly, the combination with the other references of the Dingsor modem is superfluous in the context of the claimed invention, because there is no conversion of a signal from digital to analog. Furthermore, regarding Dingsor, the examiner concluded that there was motivation, "to utilize in the combination of Nelson, Matsuyama and Dingsor a modem that is capable of receiving also a DAB signal since DAB signal is becoming popular in broadcasting industry." Again, there is in the record no evidentiary support for such a conclusion regarding a motivation to combine. In that regard, see *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.")

The reasoning of the examiner is exemplified in his conclusion (see final rejection, page 9) that, "the system in Nelson *could* have been utilized including DAB, *if* that what (sic) available since (as indicated by Kumar) the RF signal represents digital information and *could* include DAB signal." The use of the terms "could" and "if" show that there is no evidentiary support in the references for the combinations of the references relied upon.

CONCLUSION

Based upon the foregoing arguments and authorities, the rejections of the claims as obvious over the references cited and relied upon by the examiner are not well founded. Whether the references be considered individually or in combination, they neither teach nor suggest the invention as claimed. Consequently, the claims on appeal are urged to be patentable over the prior art cited and relied upon, and the decision of the examiner finally rejecting those claims should be reversed.

Respectfully submitted,

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Alfred J. Mangels
Reg. No. 22,605
4729 Cornell Road
Cincinnati, Ohio 45241
Tel.: (513) 469-0470

CLAIMS APPENDIX

Claim 1. A method for a wireless transmission of data between one computer and at least one other computer with the aid of a digital transmission system for the wireless transmission of digital data, where a transmitting computer is connected to a digital transmitter and where a receiving computer is connected to a respective digital receiver, said method comprising the steps of: intermittently transmitting digital information from the transmitting computer to a first adaptation circuit; storing information received from the transmitting computer for transmission to the receiving computer in a first memory operatively coupled with the first adaptation circuit, wherein the first adaptation circuit is disposed between the transmitting computer and the digital transmitter; substantially continuously outputting information from said first memory to said digital transmitter under a control of an outfeed oscillator in the first adaptation circuit; substantially continuously transmitting digital information over a digital audio broadcast system from the digital transmitter to a digital receiver operatively coupled with the receiving computer, and wherein said digital transmitter and said digital receiver respectively operate to transmit digital information and to receive digital information over a digital audio broadcast system; feeding the substantially continuously digitally transmitted information received by the digital receiver from the digital receiver into a second memory operatively coupled with a second adaptation circuit disposed between the digital receiver and the receiving computer and that is under a control of an infeed oscillator in the second adaptation circuit; storing the substantially continuously

digitally transmitted information in the second memory; operating the two oscillators at substantially the same frequency; and outputting intermittently from the second memory in the second adaptation circuit to the receiving computer information that has been received from the digital receiver and stored in the second memory.

Claim 2. A method according to Claim 1, including the step of synchronizing the frequency of the infeed oscillator in the second adaptation circuit with the frequency of the outfeed oscillator in the first adaptation circuit by locking the frequency of the infeed oscillator onto a reference included in the digitally transmitted signal from the digital transmitter.

Claim 3. A method according to Claim 1, including the steps of providing in the second adaptation circuit a microprocessor for determining from a fast information channel (FIC) in the digital system those parts of the digitally transmitted signal that contain data, and storing the digitally transmitted data in the second memory.

Claim 4. A method according to Claim 3, including the step of identifying in the microprocessor of the second adaptation circuit information that is relevant to a receiving computer and that includes identification of address information.

Claim 5. An arrangement for a wireless transmission of data between a first computer and at least one second computer with the aid of a digital transmission system for the wireless digital transmission of data, said arrangement comprising: a transmitting computer connected to a digital transmitter; a receiving computer connected to a digital receiver; a first adaptation circuit disposed between and operatively coupled with each of the transmitting computer and the digital transmitter, said first adaptation circuit adapted to store information delivered intermittently from the transmitting computer in a first memory operatively coupled with said first adaptation circuit, wherein the first adaptation circuit outputs the information from said first memory to said digital transmitter substantially continuously and wherein said digital transmitter and said digital receiver respectively operate to transmit digital information and to receive digital information over a digital audio broadcast system; an outfeed oscillator disposed in the first adaptation circuit for controlling the delivery of digital information from the first memory to the digital transmitter; a second adaptation circuit operatively coupled with each of the digital receiver and the receiving computer; a second memory disposed in the second adaptation circuit for storing information received from the digital receiver, wherein said second adaptation circuit inputs into the second memory information that is substantially continuously received by the digital receiver; an infeed oscillator disposed in said second adaptation circuit for controlling the transmission of information from the digital receiver to the second memory to be fetched by the receiving computer, wherein the outfeed and infeed oscillators operate at

substantially the same frequency; and wherein the receiving computer receives information intermittently from the second memory.

Claim 6. An arrangement according to Claim 5, wherein the frequency of the infeed oscillator in the second adaptation circuit is synchronized with the frequency of the outfeed oscillator in the first adaptation circuit by locking the frequency of the infeed oscillator to a reference signal included in the transmitted signal.

Claim 7. An arrangement according to Claim 5, wherein the second adaptation circuit includes a microprocessor for determining from a fast information channel (FIC) in the digital system which parts of the transmitted signal contain data, and to store transmitted data in the second memory.

Claim 8. An arrangement according to Claim 7, wherein the microprocessor in the second adaptation circuit identifies transmitted information that is relevant to the receiving computer and that includes identification of address information.

Claim 9. A method according to claim 1, wherein the digital audio broadcast system operates in accordance with a coded orthogonal frequency division mulitplex transmission standard.

Claim 10. An arrangement in accordance with claim 1, wherein the digital audio broadcast system operates in accordance with a coded orthogonal frequency division mulitplex transmission standard.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None

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